

# DATA MANAGEMENT PLAN

Bureau of Land Management  
Information Resources Management  
(WO-500)

June 12, 2000

## **INTRODUCTION**

The BLM collects, analyzes, and records a tremendous amount of business information about the public lands and resources —ranging from land title to recreational usage to wildlife habitat. This data/information is used to make thousands of business decisions each year. We recognize that this business information is of great utility and value to a wide variety of other parties, including public land users; educational institutions; countless public interest groups; other Federal, State, Tribal, and local agencies; and the scientific community. There is a growing awareness within the BLM that our business information is a major asset and that the BLM organization adds significant value in transforming raw data into useful, relevant information.

Fundamental to the new factors of the Information Age is the structured management of data. Data must be collected to a common standard in order to be reliable, current, and relevant. These attributes are the key to sharing, linking, and ultimately, integrating data and information from various sources to gain knowledge needed to address issues facing the organization. Currently, only a small percentage of our business information is stored in automated systems, and data is collected to a wide variety of standards. This is a result, in large part, of the historical evolution of the agency over some 200 years.

There are currently few mechanisms for data sharing between or among projects and/or programs, and very few efficient mechanisms for data storage and maintenance. Establishing BLM-wide data standards that are consistently applied and interpreted will enhance on-the-ground actions through reduction of multiple collections of the same information with potentially different interpretations.

BLM collects identical data to different standards due to several reasons:

- few nationwide BLM data standards have been established and followed.
- the more than 50-year evolution of BLM's legislative mandates and programs, built on top of the additional 150-year history of its predecessor agencies, such as the General Land Office, caused great variation in the data collected over time.
- data has historically not been viewed data as a fundamental corporate asset of BLM.
- data collection and management have traditionally been a local, field decision.
- and prior to 2000, an enterprise-wide analysis of work processes and information flows had not been done (see section 3.0 for a full description of this issue).

These facts make it difficult for the BLM to efficiently transition to the new Information Age.

### **The Future Needs**

As we cope with demands in the Information Age over the next 5 years, BLM expects that:

- our customer base will be broader (both in expertise and location) and more complex.
- we will have no greater, and possibly fewer, financial resources coupled with higher customer expectations.
- there will be an increased emphasis on public access to data and services electronically.
- there will continue to be emphasis on “e-government” efforts at the Federal level.

- knowledge needed to serve customers will often reside outside the BLM in partners.
- expertise will be widely distributed, both organizationally and geographically.
- a retiring workforce represents a potential loss of existing information and knowledge.

This BLM Data Management Plan embodies the provisions of the Information Technology Management Reform Act of 1996 (Clinger-Cohen Act), as interpreted by the Office of Management and Budget (OMB). The Data Management Plan provides the basis for the information requirements to support the performance goals outlined in the BLM's Strategic Plan. These goals are outlined in the Bureau Architecture Report, prepared under the direction of BLM's Chief Information Officer. The Bureau Architecture serves as the blueprint for meeting the information technology and information management requirements for the mission programs within the BLM.

The Strategic Plan envisions the use of information technology and data management tools to address the following areas:

- Implementing an integrated data management architecture to support the BLM's core mission requirements;
- Improving the data management program by using information technology to communicate better with BLM's internal and external customers;
- Promoting cooperation among customers by integrating and standardizing BLM's data resources, and
- Training BLM personnel in best practices for data management techniques, while ensuring BLM maintains a trained and highly skilled support staff for data management.

## **RELATIONSHIP OF THE DATA MANAGEMENT PLAN TO OTHER PLANS**

### **BLM Strategic Plan**

The BLM is analyzing its business processes, including data management, to achieve efficiencies in the workplace and to allow the BLM to better achieve the objectives outlined in the Strategic Plan. The Data Management Plan provides the structure to ensure that data management is developed and implemented in support of the BLM Strategic Plan goals, which are to:

- (1) Serve current and future public,
- (2) Restore and maintain the health of the land, and
- (3) Improve organizational effectiveness.

### **BLM's Annual Performance Plan**

The BLM's Annual Performance Plan details specific program objectives to achieve the BLM's Strategic Plan. The Annual Performance Plan spells out what the BLM can - and in some instances cannot - do in carrying out its responsibilities.

The Data Management Plan outlines activities to support the achievement of the annual performance measure goals as they relate to data management.

## BUREAU ARCHITECTURE REPORT

The BLM, in Fiscal Year 1999, began to define its key business processes through the development of a Bureau Architecture. The Bureau Architecture is defined through a report that identifies high level business processes performed by the BLM. The Bureau Architecture will result in implementing Strategic Goal 3 ("Improving Business Practices"), as well as, focus on BLM's unique role as a land management agency. The Architecture will form the basis for the BLM's decisions concerning its major information technology investments.

The Architecture defines the BLM's business in four major areas (business processes, data, applications, technology). The Architecture's central focus is on the business processes of the Bureau. While the Architecture identifies areas in which data management plays a role, other documents fill in the details to allow the BLM to plan its information technology acquisition, so that costs are reduced and efficiencies are maintained. The chart below shows documents which address each specific area in more detail.

<b>Area of Activity</b>	<b>Definition</b>	<b>Plan/Document Associated with this Activity</b>	<b>Year Prepared</b>
Business Processes	How BLM program personnel perform their duties.	Bureau Enterprise Architecture (BA)	FY 2000
Data	The data requirements, access, protection, reliability, and disposition of information collected and/or maintained by BLM.	Data Management Plan	FY 2000
Applications	The information systems which support BLM's business processes. This includes custom designed software and Commercial Off the Shelf Software (COTS).	IT Project Capital Asset Plans (Exhibit 300B)	FY 2000-2005
Technology	Identifying, selecting, acquiring, installing, and replacing of information technology to ensure BLM operates efficiently and effectively.	Capital Asset Plan/Core Infrastructure Components	FY 2000 updated in FY 2001 to incorporate BA

## **ROLES AND RESPONSIBILITIES**

The Director and the Deputy Director are responsible for establishing and maintaining a data management program.

Assistant Directors are responsible for coordinating data management activities in their assigned program areas.

The Assistant Director for Information Resources Management (IRM), is responsible for the overall IRM program which includes providing BLM-wide policy for the collection, creation, maintenance, use, security, access, dissemination and disposition of information.

The Bureau Data Administrator (BDA) is responsible for administration of the data management program.

The State and Center Data Administrators are responsible for the data management program within their State/Center.

Data Stewards are the owners of their data and are responsible for the quality, currency, and accessibility of data within their business area.

*Note: Roles and responsibilities need to be re-evaluated for consistency with the Bureau Architecture. The above is merely a high level draft and needs to be better defined.*

### **Data Management Plan**

A data management workshop was held in Reno, Nevada, the week of June 5, 2000. The meeting examined how the BLM manages its data resources and incorporated the Bureau Architecture (BA) data related recommendations into a draft Data Management Plan.

The Data Management Plan specifically addresses the following business related issues, needs, and concerns.

Business Issue	Concerns	Data Management Plan Approach	
		Short Term (one year)	Long Term
- Need for established procedures that are consistent and can be adhered to	Litigation and legal admissibility of electronic records	<ul style="list-style-type: none"> <li>- Consistent business procedures for collection, retention and accessibility of data through the development and use of standards.</li> <li>-Clarify roles and responsibilities.</li> </ul>	
Inaccurate or incomplete reports for Congress, etc.	- Improve data quality.	- Consistent process to develop, implement, adhere to and maintain data standards	
Customer Service  Strategic Plan and performance measures related to data	Cost of duplication of effort (redundant collection and storage of data, duplicate data entry)	<ul style="list-style-type: none"> <li>-Implement a proactive, effective stewardship program.</li> <li>-Supporting the Project Management Coordination Office and Project Proponents.</li> <li>-Identification of current data sharing agreements.</li> <li>-How the Repository will be used.</li> <li>-Review and determine how to address detailed data recommendations from the Bureau Architecture Report.</li> </ul>	<ul style="list-style-type: none"> <li>-Identification and support of only that data needed for business requirements.</li> <li>-Supporting the development of cross-cutting applications.</li> <li>-Identification of data sharing opportunities.</li> <li>-Effective management of data sharing.</li> </ul>

Maintaining legacy data		-Developing an effective data migration strategy to integrate data into a common data store.	-Implement data migration strategy.
Customer Service	-Integration of all forms of data (spatial, alphanumeric		
Inaccurate or incomplete reports for Congress, etc.		-Improve data quality.	
Competition for limited budget resources for technological tools		-Develop funding strategy to support program work.	-Select Tools to lower the costs of supporting program work.

## IMPLEMENTATION STRATEGY

The following goals and tasks are the strategy for addressing the identified business data issues.

*Goal 1: Establish Bureauwide Procedures and Mechanisms to Ensure That the Data Management Process Is Consistent, Understandable, Accurate and Reliable*

<b>Objective One: Establish a consistent process to develop, implement, adhere to, and maintain, data standards by developing and documenting clearly written and concise data standards for all applications.</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Write Charter	ADs & WO-500	0.25 WM (2 people for 2 days)	Program leaders and technical support	Charter
Establish Team	Responsible AD	0.1 WM (1 person for 2 days)	Team Lead	Team Roster
Team develops criteria	Appropriate AD	3 WMs (4 people for 3 weeks)	Team of Subject matter experts	Criteria
Outline steps to develop a data standard (review team)	Appropriate AD	4 WMs (4 people for 1 month)	Team of Subject matter experts	Outline
Develop template, checklist	Team	4 WMs (4 people for 1 month)	Team of Subject matter experts	Template Checklist
Develop process flow diagrams	Team	10 WMs (5 people for 2 months)	Team of Subject matter experts and contractor	Process flow diagram
Issue final policy and guidance	Appropriate AD	1 WM (1 person for 1 month)	Team Lead	IM



*Goal 1: Establish Bureauwide Procedures and Mechanisms to Ensure That the Data Management Process Is Consistent, Understandable, Accurate and Reliable*

**Objective Two: Prevent duplication of data collection, ensure reusability of data among programs, and ensure accountability of programs and their data by establishing a consistent procedure so that data are understandable, consistent, reliable, accurate, and useful to programs.**

Activity	Responsible Party	Work Effort	Resources	Products
Develop Plan	Appropriate AD	24 WMs (4 people for 6 months)	Program Lead and Team	Plan
Establish mechanism for Internal BLM coordination and liaison (BLM program management)	Appropriate AD	24 WMs (4 people for 6 months)	Team	Process Outline
Establish mechanism for External coordination and liaison	Appropriate AD	24 WMs (4 people for 6 months)	Team	Process Outline

*Goal 1: Establish Bureauwide Procedures and Mechanisms to Ensure That the Data Management Process Is Consistent, Understandable, Accurate and Reliable*

<b>Objective Three: Create or re-create an evaluation process, to review the management of data according to the standards.</b>				
<b>Goal:</b> Establish evaluation criteria and enforce it.				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Review current evaluation process	WO-500	0.5 WMs (2 people for 1 week)	Team	Assessment of current evaluation process
Develop evaluation criteria	WO-500 and All ADs	16 WMs (4 people for 4 months)	Team	Evaluation criteria
Determine process to be used from evaluation criteria	WO-500	4 WMs (4 people for 1 month)	Team	Formalized process (checklist)
Develop plan	All ADs	4 WMs (4 people for 1 month)	Team	Plan
Establish enforcement procedures	All ADs	16 WMs (4 people for 4 months)	Team	Written procedures
Implement evaluation and enforcement procedures	All ADs	On-going	Program Leads and subject matter experts	IM

*Goal 1: Establish Bureauwide Procedures and Mechanisms to Ensure That the Data Management Process Is Consistent, Understandable, Accurate and Reliable*

<b>Objective Four: Need to clarify the current roles of Data Administrator and Data Steward as they relate to data vs. data standards vs. process/applications</b>				
<b>Goal:</b> Define current roles and responsibilities of Data Administrator and Data Steward.				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Establish team that will define current roles and responsibilities of the Data Administrators and Data Stewards		start date: 6/7/2000 completion date: 6/14/2000		
Incorporate findings of team into the 1283 Manual	Bureau Data Administrator	start date: 6/2000 end date: 8/2000		Product: Finalized 1283 Manual

*Goal 1: Establish Bureauwide Procedures and Mechanisms to Ensure That the Data Management Process Is Consistent, Understandable, Accurate and Reliable*

<b>Goal Five: Roles and Responsibilities for Remaining Data Management Personnel</b>				
<b>Goal:</b> To be determined				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
TBD				

*GOAL 2: Assist the Bureau Architecture in completing data architecture details to meet business needs.*

<b>Objective One: To determine Bureauwide business standard by reviewing possible conflicting, data standards among various applications and making a business decision made on what is the BLM standard.</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Identify business need from customer request (project proposal, Strategic Plan initiative, etc.)	All ADs			Business requirement
Inventory existing data standards	Appropriate AD	40 WMs (40 people for 1 month)	Inventory Team	Inventory
Review and critique existing standards	All ADs	80 WMs (40 people for 2 months)	Bureau wide subject matter experts	Measure of validity of data standard
Develop a data standard	Appropriate AD	30 WMs (10 people for 10 months)	Inventory team including business users	Improved data standards
Publish the data standard	Appropriate AD	1 WM (1 person for 1 month)	BLM management	IM
Document data standard in repository				

*GOAL 2: Assist the Bureau Architecture in completing data architecture details to meet business needs*

<b>Objective Two: Make the ability to get and share information among agencies and organizations more effective and efficient by capitalizing on opportunities to establish National, State level partnerships for data sharing.</b>				
<b>Goal:</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Identify business need	Appropriate AD	0.5 WM (2 people for 1 week)	Team	Needs Assessment
Develop plan	Appropriate AD & WO-500	24 WMs (4 people for 6 months)	Team	Plan
Establish mechanism to develop partnerships	Appropriate AD	6 WMs (1 person for 6 months)	Team	Process Outline
Establish a review process for existing partnerships	All ADs and ELT	40 WMs (40 people for 1 month)	Team	IM with procedures

*GOAL 2: Assist the Bureau Architecture in completing data architecture details to meet business needs*

<b>Objective Three: Develop and implement data steward responsibilities handbook to respond to the Management need to take a directive supportive role in acknowledging the importance of data stewardship responsibilities</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Implement mechanisms to identify data stewards and ensure accountability at both the national and field office levels.	Bureau Data Administrator and IRM Advisors	Start date: 9/2000 end date: 11/2000		<p>List of data stewards at national level for each subject area (review/reissue annually).</p> <p>Direction to field office to develop maintain list of state data stewards. (WO directive needed)</p> <p>Incorporate or ensure Data Stewards and Managers' responsibilities in PDs and EPPRRS. (WO directive needed)</p>
Develop a document that provides specific guidelines and procedures for Data Steward's role.	Bureau Data Administrator	Start date: 9/2000 end date: 6/2001		Data Steward handbook

*GOAL 2: Assist the Bureau Architecture in completing data architecture details to meet business needs*

<b>Objective Four: Develop training and participate in workshops and meetings in order to promote data stewardship to all employees..</b>				
<b>Goal:</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Develop and provide training to data stewards and managers.	Team of DAs and Program Employees or contractor, AD-700	Start date: 9/2000 end date: 6/2001		Data Steward Training Handbook, Manager's Training Handbook
Conduct annual workshops for Data Stewards (by subject area) or incorporate into other scheduled subject matter workshops.	WO Leads - DS	Start date: each FY beginning 3/2001		



*GOAL 2: Assist the Bureau Architecture in completing data architecture details to meet business needs*

<b>Objective Five: Establish a Business Data Requirements Program</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Create a charter	Bureau Data Administrator	1 WM (30 days to complete)	All ADs Data Administrator s BA Core Team Lead	Charter
Create a project plan for the Business Data Requirements Program.	Bureau Data Administrator	5 WMs (3 months to complete)	PMCO Team Data Administrator s BBA Core Team Business Program Leads	Project Plan
Implement and manage Business Data Requirements Program.	Bureau Data Administrator	Duration: On-going	Data Administrator s BBA Core Team Business Program Leads	Reporting of performance measures

*GOAL 2: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Six: Facilitate sharing of business data requirements by establishing procedures for sharing data requirements once they are collected in the Bureau Architecture.</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Develop procedures.	Bureau Data Administrator	1 WMs (60 days duration)	Business Program Leads Data Administrators BBA Core Team	Standard Operating Procedures
Support the PMCO Team process relating to business data requirements	Bureau Data Administrator	Duration: On-going	Data Administrators BBA Core Team	Processes in place

*GOAL 2: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Seven: Performance measures are required to monitor the Data Management Plan activities</b>				
<b>Goal:</b> Establish ABC accomplishments categories				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Create accomplishment categories for data program	Bureau Data Administrator	1 WM	Bureau Data Administrator Business Teams ABC Lead	

*GOAL 2: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Eight: Establish data quality program to support the requirements of the Business Architecture by business subject areas</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Create a charter	Bureau Data Administrator	1 WM (30 days to complete)	All ADs Data Administrators BA Core Team Lead	Charter
Create a project plan for the Data Quality Program.	Bureau Data Administrator	5 WMs (3 months to complete)	PMCO Team Data Administrators BBA Core Team Business Program Leads	Project Plan
Implement and manage data quality program.	Bureau Data Administrator	Duration: On-going	Data Administrators BBA Core Team Business Program Leads	Audit result

*GOAL 2: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Nine: Investigate Appropriate Data Tools</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
TBD				

*GOAL 3: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective One: Follow-up required on Bureau Architecture recommendations to support business subject areas</b>				
<b>Goal:</b> Support Bureau Business Architecture program by addressing the 500 issues from the Bureau Architecture Report				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Develop plan to incorporate BA report recommendations.	Bureau Data Administrator	2 WMs (30 Days to complete)	BBA Team Data Administrators (3-4) Business Program Leads (3-4)	Plan
Participate in execution of these recommendations	BBA Team Lead	Duration: On-Going (1-2 WMs per year)	Data Administrators Business Program Leads BBA Team	Report Accomplishments

*GOAL 3: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Two: Develop performance measures to determine if we are meeting our objectives</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Develop methodology to measure our success	Bureau Data Administrator	Start date: 11/2000 end date: 2/2001		Checklist to be used during data stewardship assessments and a tool for day to day guidance
Self-assessment of data stewardship at national and field office level	Bureau Data Administrator and State DAs	Start date: 3/2001 end date: on going		Results of self-assessment
Audit Data	State DAs and Data Stewards or contractor	Start date: 6/2001		Performance measure

*GOAL 3: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Three: Establish process to manage corporate business data within the Bureau Architecture</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Develop procedure to store Bureau Architecture data model with Corporate Metadata Repository	Bureau Data Administrator	2 WMs (60 days to complete)	RUG Team	Standard Operating Procedures
Participate in execution of these recommendations	Bureau Data Administrator	Duration: On-going	Data Administrators	



*GOAL 3: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Four: Metadata not readily available to business users</b>				
<b>Goal:</b> Establish a Bureau wide metadata inventory program to be centrally located				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Develop plan to inventory automated Bureau metadata.	Bureau Data Administrator	1 WM (30 days to complete)	PMCO Team Lead Data Administrators (2) Records Administrators (1) DBA (2) BA Core Team (1) Repository User Group	Plan
Populate repository to manage and maintain metadata.	Bureau Data Administrator	3-6 WMs (6-9 months to complete)	PMCO Team Lead Repository Team Lead/Tool Team Lead	
Identify and develop procedure to integrate common metadata.	Bureau Data Administrator	Duration: On-going	Data Stewards/User Reps Data Administrators BA Team Lead	

*GOAL 3: Follow-up on Bureau Architecture recommendations to support business subject areas*

<b>Objective Five: Establish Outreach Program to support the Data Management Plan to communicate the new Data Management Plan strategy</b>				
<b>Goal:</b>				
<b>Activity</b>	<b>Responsible Party</b>	<b>Work Effort</b>	<b>Resources</b>	<b>Products</b>
Establish communication plan (i.e., meeting briefings, training material, etc.)	Bureau Data Administrator	1 WM (Duration: on-going)	Data Administrators PMCO Business Leads Communications Group	
Establish guidance	Bureau Data Administrator	1 WM (Duration: on-going)	Data Administrators PMCO Business Leads Communications Group	
Participate in management meetings				

Data Management Plan Participants  
June 5 - 9, 2000

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